
In the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS

1. (amended) A portable gas-fired infrared heater comprising:
 - (a) a housing enclosing a burner assembly including a gas valve adapted to receive fuel from an associated fuel supply and communicating with an orifice, the orifice being located to direct fuel to a venturi for mixing with air which, in turn, communicates with a rear face of a radiant surface where combustion occurs, the housing further including an air inlet for communicating air to the venturi;
 - (b) said housing at least partially enclosing at least one fuel source; and
 - (c) an oxygen depletion monitoring means inside the housing of said heater having a thermocouple which monitors the temperature of a flame operatively associated with the burner assembly for automatically shutting off the burner assembly at a predetermined content of at least one gas selected from the group consisting of oxygen, carbon dioxide and carbon monoxide.
2. (original) The portable heater of claim 1 which further comprises
 - (a) a handle spaced from the radiant surface.
3. (original) The portable heater of claim 2 which further comprises
 - (a) at least two legs that elevate the housing relative to an associated support surface.
4. (original) The portable heater of claim 2 which further comprises
 - (a) at least one recess in the housing for hanging the heater.
5. (original) The portable heater of claim 4 wherein
 - (a) the recess is a key-shaped opening.
6. (original) The portable heater of claim 4 wherein
 - (a) the recess is located on a surface of the housing spaced from the radiant surface.
7. (original) The portable heater of claim 1 which further comprises
 - (a) an igniter secured to the housing for initiating combustion at the radiant surface.
8. (original) The portable heater of claim 1 wherein
 - (a) the housing is dimensioned to enclose at least an upper portion of said at least one fuel source.
9. (original) The portable heater of claim 8 wherein
 - (a) said at least one fuel source is at least a one pound propane fuel tank.
10. (original) The portable heater of claim 9 wherein

- (a) said at least one fuel source is at least two one pound propane fuel tanks.
- 11. (original) The portable heater of claim 8 wherein
 - (a) said at least one fuel source is completely enclosed within said housing.
- 12. (original) The portable heater of claim 10 wherein
 - (a) said at least two one pound propane fuel tanks are completely enclosed within said housing.
- 13. (original) The portable heater of claim 1 which further comprises
 - (a) a controller for selectively switching operation of the portable heater among at least discrete off, pilot, low, and high positions.
- 14. (original) The portable heater of claim 1 which further comprises
 - (a) a controller for continuous variable operation of the portable heater.
- 15. (original) The portable heater of claim 13 wherein
 - (a) the controller includes a control knob disposed in a housing recess for protecting against inadvertent contact.
- 16. (original) The portable heater of claim 1 which further comprises
 - (a) an extended length hose assembly for connecting the heater to an associated remote fuel source.
- 17. (amended) The portable heater of claim 1 which further comprises
 - (a) a swivel regulator for reducing pressure from an associated fuel source.
- 18. (original) The portable heater of claim 17 wherein
 - (a) the regulator limits the pressure of an associated fuel source to approximately eleven inches water column.
- 19. (amended) The portable heater of claim 1 which further comprises wherein
 - (a) a said thermocouple that monitors changes in temperature of a pilot flame associated with the radiant surface.
- 20. (original) The portable heater of claim 1 which further comprises
 - (a) a shield secured to the housing in overlapping relation to the radiant surface.
- 21. (original) The portable heater of claim 1 which further comprises
 - (a) at least one fan to increase air circulation through said heater; and
 - (b) a power source for said at least one fan.
- 22. (original) The portable heater of claim 21 wherein
 - (a) said power source is selected from the group consisting of at least one dry cell battery, at least one battery pack and a power cord configured to plug into a source of electricity.
- 23. (original) The portable heater of claim 22 wherein
 - (a) said power source is rechargeable.
- 24. (original) The portable heater of claim 1 which further comprises
 - (a) an access means to said at least one fuel source.

25. (original) The portable heater of claim 24 wherein
 - (a) said access means is a door in said housing.
26. (amended) The portable heater of claim 1 which further comprises
 - (a) at least one pivotable fitting for connection to a regulator for said at least one fuel source.
27. (original) The portable heater of claim 10 wherein
 - (a) said at least two fuel sources are positioned on one side of said heater.
28. (original) The portable heater of claim 10 wherein
 - (a) said at least two fuel sources are positioned on a rear side of said heater.
29. (original) The portable heater of claim 10 wherein
 - (a) said at least two fuel sources are positioned on opposed sides of said heater.
30. (original) The portable heater of claim 10 which further comprises
 - (a) an igniter for each fuel source.
31. (original) The portable heater of claim 30 which further comprises
 - (a) a controller for each fuel source.
32. (amended) A portable radiant heater comprising:
 - (a) a housing having a handle for transporting the heater;
 - (b) an air inlet in the housing;
 - (c) a burner assembly mounted in the housing including at least one fuel valve adapted to operatively communicate with at least one associated fuel source and the air inlet; and
 - (d) a radiant surface having a rear face communicating with a plenum chamber and wherein the radiant surface is recessed in the housing and disposed at an angle; and
 - (e) an oxygen depletion system inside the housing of said heater having a thermocouple which monitors the temperature of a flame and operatively associated with the burner assembly for automatically shutting off the fuel valve in response to detection of a predetermined level of at least one gas selected from the group consisting of oxygen, carbon dioxide and carbon monoxide.
33. (original) The portable heater of claim 32 wherein
 - (a) the plenum chamber is adjacent to the radiant surface for distributing an associated air/fuel mixture over the rear face of the radiant surface.
34. (original) The portable heater of claim 33 which further comprises
 - (a) a regulator for limiting the pressure of the associated fuel source to approximately eleven inches water column.
35. (original) The portable heater of claim 34 which further comprises
 - (a) a control knob for selecting various modes of operation of the heater, the control knob located in a recess of the housing for limiting inadvertent contact.

36. (original) The portable heater of claim 35 wherein
 - (a) the heater includes a controller for providing at least 4000 BTUs/hour in a first operative state and at least 9000 BTUs/hour in a second operative state.
37. (original) The portable heater of claim 36 which further comprises
 - (a) an elongated hose assembly for interconnecting the heater to an associated remotely located fuel source.
38. (original) The portable heater of claim 32 wherein
 - (a) the housing includes at least one cavity dimensioned for receiving at least one associated fuel source therein.
39. (original) The portable heater of claim 32 which further comprises
 - (a) a venturi interposed between the at least one fuel valve and the radiant surface for mixing the associated fuel with air.
40. (original) The portable heater of claim 32 wherein
 - (a) said at least one fuel source is a one pound propane cylinder.
41. (original) The portable heater of claim 40 wherein
 - (a) said at least one fuel source is at least two one pound propane cylinders.
42. (amended) The portable heater of claim 32 ~~which further comprises~~ wherein
 - (a) a said thermocouple that monitors changes in temperature of a pilot flame associated with the radiant surface.
43. (original) The portable heater of claim 32 which further comprises
 - (a) a shield secured to the housing in overlapping relation to the radiant surface.
44. (original) The portable heater of claim 32 which further comprises
 - (a) at least one fan to increase air circulation through said heater; and
 - (b) a power source for said at least one fan.
45. (original) The portable heater of claim 44 wherein
 - (a) said power source is selected from the group consisting of at least one dry cell battery, at least one battery pack and a power cord configured to plug into a source of electricity.
46. (original) The portable heater of claim 45 wherein
 - (a) said power source is rechargeable.
47. (original) The portable heater of claim 32 which further comprises
 - (a) an access means to said at least one fuel source.
48. (original) The portable heater of claim 47 wherein
 - (a) said access means is a door in said housing.
49. (amended) The portable heater of claim 32 which further comprises
 - (a) at least one pivotable fitting for connection to a regulator for said at least one fuel source.

50. (original) The portable heater of claim 41 wherein
 - (a) said at least two fuel sources are positioned on one side of said heater.
51. (original) The portable heater of claim 41 wherein
 - (a) said at least two fuel sources are positioned on a rear side of said heater.
52. (original) The portable heater of claim 41 wherein
 - (a) said at least two fuel sources are positioned on opposed sides of said heater.
53. (original) The portable heater of claim 41 which further comprises
 - (a) an igniter for each fuel source.
54. (original) The portable heater of claim 53 which further comprises
 - (a) a controller for each fuel source.
55. (amended) A portable radiant heater comprising:
 - (a) a housing for enclosing said heater and at least partially enclosing at least a one pound fuel source;
 - (b) an air inlet in the housing;
 - (c) a burner assembly mounted in the housing including a fuel valve adapted to operatively communicate with said at least one fuel source and the air inlet;
 - (d) a radiant surface having a rear face communicating with a plenum chamber and wherein the radiant surface is recessed in the housing and disposed at an angle; and
 - (e) an automatic shutoff mechanism inside the housing of said heater having a thermocouple which monitors the temperature of a flame and operatively associated with the burner assembly for shutting off the fuel valve in response to a detection of a predetermined level of at least one gas selected from the group consisting of oxygen, carbon dioxide and carbon monoxide.
56. (amended) The portable radiant heater of claim 55 wherein
 - (a) the automatic shutoff mechanism includes a thermocouple that monitors changes in a temperature of a pilot flame of the burner assembly indicative of changes in the concentration of a gas selected from the group consisting of oxygen, carbon dioxide and carbon monoxide.
57. (original) The portable radiant heater of claim 56 wherein
 - (a) the automatic shutoff mechanism shuts off at approximately 100 ppm of carbon monoxide at approximately 18% oxygen levels.
58. (original) The portable heater of claim 55 which further comprises
 - (a) an igniter secured to the housing for initiating combustion at the radiant surface.
59. (original) The portable heater of claim 55 wherein
 - (a) the housing is dimensioned to enclose at least an upper portion of said at least one fuel source.

60. (original) The portable heater of claim 59 wherein
 - (a) said at least one fuel source is at least a one pound propane fuel tank.
61. (original) The portable heater of claim 59 wherein
 - (a) said at least one fuel source is at least two one pound propane fuel tanks.
62. (original) The portable heater of claim 60 wherein
 - (a) said at least one fuel source is completely enclosed within said housing.
63. (original) The portable heater of claim 61 wherein
 - (a) said at least two one pound propane fuel tanks are completely enclosed within said housing.
64. (original) The portable heater of claim 55 which further comprises
 - (a) a controller for selectively switching operation of the portable heater among at least discrete off, pilot, low, and high positions.
65. (original) The portable heater of claim 55 which further comprises
 - (a) a controller for continuous variable operation of the portable heater.
66. (original) portable heater of claim 64 wherein
 - (a) the controller includes a control knob disposed in a housing recess for protecting against inadvertent contact.
67. (original) The portable heater of claim 55 which further comprises
 - (a) an extended length hose assembly for connecting the heater to an associated remote fuel source.
68. (original) The portable heater of claim 55 which further comprises
 - (a) a regulator for reducing pressure from an associated fuel source.
69. (original) The portable heater of claim 68 wherein
 - (a) the regulator limits the pressure of an associated fuel source to approximately eleven inches water column.
70. (original) The portable heater of claim 55 which further comprises
 - (a) a thermocouple that monitors changes in temperature of a pilot flame associated with the radiant surface.
71. (original) The portable heater of claim 55 which further comprises
 - (a) a shield secured to the housing in overlapping relation to the radiant surface.
72. (original) The portable heater of claim 55 which further comprises
 - (a) at least one fan to increase air circulation through said heater; and
 - (b) a power source for said at least one fan.
73. (original) The portable heater of claim 72 wherein
 - (a) said power source is selected from the group consisting of at least one dry cell battery, at least one battery pack and a power cord configured to plug into a source of electricity.

74. (original) The portable heater of claim 73 wherein
 - (a) said power source is rechargeable.
75. (original) The portable heater of claim 55 which further comprises
 - (a) an access means to said at least one fuel source.
76. (original) The portable heater of claim 75 wherein
 - (a) said access means is a door in said housing.
77. (amended) The portable heater of claim 76 which further comprises
 - (a) at least one pivotable fitting for connection to a regulator for said at least one fuel source.
78. (original) The portable heater of claim 61 wherein
 - (a) said at least two fuel sources are positioned on one side of said heater.
79. (original) The portable heater of claim 61 wherein
 - (a) said at least two fuel sources are positioned on a rear side of said heater.
80. (original) The portable heater of claim 61 wherein
 - (a) said at least two fuel sources are positioned on opposed sides of said heater.
81. (original) The portable heater of claim 61 which further comprises
 - (a) an igniter for each fuel source.
82. (original) The portable heater of claim 81 which further comprises
 - (a) a controller for each fuel source.
83. (original) The portable heater of claim 1 which further comprises
 - (a) at least two wheels extending from a bottom of said housing.
84. (original) The portable heater of claim 83 wherein
 - (a) said at least two wheels is four wheels, each positioned at a corner of said bottom housing.
85. (original) The portable heater of claim 1 which further comprises
 - (a) at least two burner assemblies.
86. (original) The portable heater of claim 85 wherein
 - (a) said at least two burner assemblies are independently controlled.
87. (original) The portable heater of claim 32 which further comprises
 - (a) at least two wheels extending from a bottom of said housing.
88. (original) The portable heater of claim 87 wherein
 - (a) said at least two wheels is four wheels, each positioned at a corner of said bottom housing.
89. (original) The portable heater of claim 32 which further comprises
 - (a) at least two burner assemblies.
90. (original) The portable heater of claim 89 wherein
 - (a) said at least two burner assemblies are independently controlled.
91. (original) The portable heater of claim 55 which further comprises
 - (a) at least two wheels extending from a bottom of said housing.

92. (original) The portable heater of claim 91 wherein
 - (a) said at least two wheels is four wheels, each positioned at a corner of said bottom housing.
93. (original) The portable heater of claim 55 which further comprises
 - (a) at least two burner assemblies.
94. (original) The portable heater of claim 93 wherein
 - (a) said at least two burner assemblies are independently controlled.
95. (original) The portable heater of claim 13 which further comprises
 - (a) a piezo igniter
96. (original) The portable heater of claim 64 which further comprises
 - (a) a piezo igniter
97. (original) The portable heater of claim 16 which further comprises
 - (a) a hose assembly recoil means.
98. (original) The portable heater of claim 37 which further comprises
 - (a) a hose assembly recoil means.
99. (original) The portable heater of claim 67 which further comprises
 - (a) a hose assembly recoil means.
100. (original) The portable heater of claim 97 wherein
 - (a) the hose assembly further comprises a positive fuel shutoff means at both ends of said hose assembly.
101. (original) The portable heater of claim 98 wherein
 - (a) the hose assembly further comprises a positive fuel shutoff means at both ends of said hose assembly.
102. (original) The portable heater of claim 99 wherein
 - (a) the hose assembly further comprises a positive fuel shutoff means at both ends of said hose assembly.
103. (amended) A portable gas-fired infrared heater comprising:
 - (a) a housing enclosing a burner assembly including a gas valve adapted to receive fuel from an associated enclosed fuel supply comprising at least one 1-lb. cylinder for said fuel supply and communicating with an orifice, the orifice being located to direct fuel for mixing with air which, in turn, communicates with a radiant surface where combustion occurs; and
 - (b) an oxygen depletion monitoring means inside the housing of said heater having a thermocouple which monitors the temperature of a flame and operatively associated with the burner assembly for automatically shutting off the burner assembly at a predetermined content of at least one gas selected from the group consisting of oxygen, carbon dioxide and carbon monoxide.

104. (original) The portable heater of claim 103 which further comprises
 - (a) a handle spaced from the radiant surface.
105. (original) The portable heater of claim 103 which further comprises
 - (a) at least two legs that elevate the housing relative to an associated support surface.
106. (original) The portable heater of claim 103 which further comprises
 - (a) at least one recess in the housing for hanging the heater.
107. (original) The portable heater of claim 106 wherein
 - (a) the recess is a key-shaped opening.
108. (original) The portable heater of claim 106 wherein
 - (a) the recess is located on a surface of the housing spaced from the radiant surface.
109. (original) The portable heater of claim 103 which further comprises
 - (a) an igniter secured to the housing for initiating combustion at the radiant surface.
110. (original) The portable heater of claim 103 wherein
 - (a) said at least one fuel source is at least two one pound propane fuel tanks.
111. (original) The portable heater of claim 110 wherein
 - (a) said at least two one pound propane fuel tanks are completely enclosed within said housing.
112. (original) The portable heater of claim 103 which further comprises
 - (a) a controller for selectively switching operation of the portable heater among at least discrete off, pilot, low, and high positions.
113. (original) The portable heater of claim 103 which further comprises
 - (a) a controller for continuous variable operation of the portable heater.
114. (original) The portable heater of claim 112 wherein
 - (a) the controller includes a control knob disposed in a housing recess for protecting against inadvertent contact.
115. (original) The portable heater of claim 103 which further comprises
 - (a) an extended length hose assembly for connecting the heater to an associated remote fuel source.
116. (original) The portable heater of claim 115 which further comprises
 - (a) a regulator for reducing pressure from an associated fuel source.
117. (original) The portable heater of claim 116 wherein
 - (a) the regulator limits the pressure of an associated fuel source to approximately eleven inches water column.
118. (amended) The portable heater of claim 103 which further comprises wherein
 - (a) a said thermocouple that monitors changes in temperature of a pilot flame associated with the radiant surface.

119. (original) The portable heater of claim 103 which further comprises

- (a) a shield secured to the housing in overlapping relation to the radiant surface.

120. (original) The portable heater of claim 103 which further comprises

- (a) at least one fan to increase air circulation through said heater; and
- (b) a power source for said at least one fan.

121. (original) The portable heater of claim 120 wherein

- (a) said power source is selected from the group consisting of at least one dry cell battery, at least one battery pack and a power cord configured to plug into a source of electricity.

122. (original) The portable heater of claim 121 wherein

- (a) said power source is rechargeable.

123. (original) The portable heater of claim 103 which further comprises

- (a) an access means to said at least one fuel source.

124. (original) The portable heater of claim 123 wherein

- (a) said access means is a door in said housing.

125. (amended) The portable heater of claim 123 which further comprises

- (a) at least one pivotable fitting for connection to a regulator for said at least one fuel source.

126. (original) The portable heater of claim 111 wherein

- (a) said at least two fuel sources are positioned on one side of said heater.

127. (original) The portable heater of claim 111 wherein

- (a) said at least two fuel sources are positioned on a rear side of said heater.

128. (original) The portable heater of claim 111 wherein

- (a) said at least two fuel sources are positioned on opposed sides of said heater.

129. (original) The portable heater of claim 111 which further comprises

- (a) an igniter for each fuel source.

130. (original) The portable heater of claim 129 which further comprises

- (a) a controller for each fuel source.

131. (original) A portable radiant heater comprising:

- (a) a housing for enclosing said heater
- (b) at least one 1-lb. fuel source in communication with said heater, said fuel source removable by pivotal movement from a first in-use position to a second replacement position;
- (c) an air inlet in the housing;
- (d) a burner assembly mounted in the housing including a fuel valve adapted to operatively communicate with said at least one fuel source and the air inlet;
- (e) a radiant surface in the housing where combustion occurs; and

(f) an automatic shutoff mechanism operatively associated with the burner assembly for shutting off the fuel valve in response to a detection of a predetermined level of at least one gas selected from the group consisting of oxygen, carbon dioxide and carbon monoxide.

132. (original) The portable radiant heater of claim 131 wherein

(a) the automatic shutoff mechanism includes a thermocouple that monitors changes in a temperature of a flame of the burner assembly indicative of changes in the concentration of a gas selected from the group consisting of oxygen, carbon dioxide and carbon monoxide.

133. (original) The portable radiant heater of claim 132 wherein

(a) the automatic shutoff mechanism shuts off at approximately 100 ppm of carbon monoxide at approximately 18% oxygen levels.

134. (original) The portable heater of claim 131 which further comprises

(a) an igniter secured to the housing for initiating combustion at the radiant surface.

135. (original) The portable heater of claim 131 wherein

(a) said at least one fuel source is at least a one pound propane fuel tank.

136. (original) The portable heater of claim 135 wherein

(a) said at least one fuel source is at least two one pound propane fuel tanks.

137. (original) The portable heater of claim 131 which further comprises

(a) a controller for selectively switching operation of the portable heater among at least discrete off, pilot, low, and high positions.

138. (original) The portable heater of claim 131 which further comprises

(a) a controller for continuous variable operation of the portable heater.

139. (original) The portable heater of claim 137 wherein

(a) the controller includes a control knob disposed in a housing recess for protecting against inadvertent contact.

140. (original) The portable heater of claim 131 which further comprises

(a) an extended length hose assembly for connecting the heater to an associated remote fuel source.

141. (original) The portable heater of claim 140 which further comprises

(a) a regulator for reducing pressure from an associated fuel source.

142. (original) The portable heater of claim 141 wherein

(a) the regulator limits the pressure of an associated fuel source to approximately eleven inches water column.

143. (amended) The portable heater of claim 131 which further comprises wherein

(a) a said thermocouple that monitors changes in temperature of a pilot flame associated with the radiant surface.

144. (original) The portable heater of claim 131 which further comprises
 - (a) a shield secured to the housing in overlapping relation to the radiant surface.
145. (original) The portable heater of claim 131 which further comprises
 - (a) an access means to said at least one fuel source.
146. (original) The portable heater of claim 145 wherein
 - (a) said access means is a door.